

## Lesson Plan (2023-2024 Even Semester)

Professor – Ms. Kanika Sikri

Class and Section- B.Sc. II (medical and non medical) IV semester

Subject-Physical Chemistry (Feb to May 2024)

Week/Month	Name of Topics
1 week Feb	Student will be able to learn and define Thermodynamics, Second law of thermodynamics, need for the law, different statements of the law, Carnot's cycles and its efficiency, Carnot's theorem, Thermodynamics scale of temperature.
2 week Feb	Student will be able to learn and define Concept of entropy – entropy as a state function, entropy as a function of V & T, entropy as a function of P & T, entropy change in physical change, entropy as a criteria of spontaneity and equilibrium.
3 week Feb	Student will be able to learn and define Third law of thermodynamics: Nernst heat theorem, concept of residual entropy.
4 week Feb	Student will be able to learn and define evaluation of absolute entropy from heat capacity data, Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities.
1 week March	Student will be able to learn and define G as criteria for thermodynamic equilibrium and spontaneity, its advantage over entropy change. Variation of G with P, V and T. Revision and Class Test of Chapter thermodynamics.
2 week March	Student will be able to learn and define Electrochemistry ,Electrolytic and Galvanic cells – reversible & irreversible cells, conventional representation of electrochemical cells.
3 week March	Student will be able to learn and define Calculation of thermodynamic quantities of cell reaction, types of reversible electrodes – metal- metal ion, gas electrode, metal –insoluble salt-anion and redox electrodes.
4 week March	Student will be able to learn and define Electrode reactions, Nernst equations, derivation of cell EMF and single electrode potential.
1 week April	Student will be able to learn and define Standard Hydrogen electrode, reference electrodes, standard electrode potential.
2 week April	Student will be able to learn and define sign conventions, concentration cells with and without transference, liquid junction potential and its measurement.
3 week April	Student will be able to learn and define Applications of EMF measurement in solubility product.
4 week April	Student will be able to learn potentiometric titrations using glass electrode.
1 week May	Numerical Problem will be discussed.
2 week May	Revision and Class Test of Chapter Electrochemistry.